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/David H. Brinkman/ 2/16/06
David H. Brinkman, Reg. No. 40,532 Date

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Michael J. Romine
Serial No.: 09/821,618
Filed: March 29, 2001
Confirmation No.: 4107
Group Art Unit: 1734
Examiner: Koch, George R.
Title: **FLOATING HEAD LIQUID DISPENSER WITH DISPENSING
HEAD SENSOR**
Atty. Docket: NOR-979

Cincinnati, Ohio 45202

February 16, 2006

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE

Sir:

This Response is submitted in reply to the Office Action mailed on November 16, 2005. Claims 1-10 are pending in the present application. In view of the following remarks, Applicant respectfully submits that this application is in complete condition for allowance and requests reconsideration of the application in this regard.

Applicant respectfully traverses several positions taken by Examiner in the rejections of claims 1-10. In particular, Examiner states in pages 2-3 and 5 of the Office Action that the liquid dispensing head of Rutledge et al. has the "capability to move" in

response to contact of the liquid dispensing head with the substrate. However, as Applicant has argued before, this is not the case. As shown in Fig. 4 of Rutledge et al., the dispensing gun does not contact the closure member (100) as evidenced by the small gap between the tip of the dispensing gun (122) and the closure member (100) at the flange portion (102). Indeed, the dispensing tip of Rutledge et al. cannot contact the closure member since the closure member is rotated relative to the dispensing gun during the dispensing process (see Column 13, lines 31-33). Rather, the dispensing head of Rutledge et al. moves in response to operation of the support and drive assembly (630).

Each of independent claims 1 and 7 recites that the floating dispensing head is operatively connected to the support member and configured for floating linear movement relative to the support member in response to contact of the liquid dispensing head with the substrate. Applicant respectfully submits that the language “configured for” as recited in each of independent claims 1 and 7 is entirely different than having the “capability to move” as argued by Examiner in the rejections. Neither of independent claims 1 nor 7 recites that the liquid dispensing head has the “capability to move” in response to contact of the liquid dispensing head with the substrate as argued by Examiner. In view of the operation of the Rutledge et al. liquid dispenser as described above, Applicant respectfully traverses Examiner’s position that this claimed feature is disclosed in Rutledge et al. and submits that the Rutledge et al. liquid dispenser is not configured for floating linear movement as claimed by Applicant.

Examiner also takes the position in pages 3 and 5-6 of the Office Action that the linear displacement sensor (sensor assembly 668) of Rutledge et al. is “operatively connected” to the support member and the liquid dispensing head and so the placement of the sensor on items (670) and (674) in Rutledge et al. is alleged to “read on” the sensor being “operatively connected” to the support member and liquid dispensing head. Applicant respectfully disagrees.

In Rutledge et al., the movable sensor bracket (670) (which Examiner alleges is analogous to Applicant’s claimed moveable support member) is attached to the movable block (658) as shown in Figs. 19-21 (see Col. 17, lines 59-61). The fixed or stationary sensor mechanism (674) is supported by the fixed or stationary support plate (680) (see Col 17, line 62 through Col. 18, line 7).

Each of independent claims 1 and 7 recites a linear displacement sensor (claim 1) or a linear encoder (claim 7) having a first sensor component supported by and moveable with the support member and a second sensor component supported by and movable with the liquid dispensing head. Applicant respectfully submits that the language “supported by” as recited in each of independent claims 1 and 7 is entirely different than “operatively connected” as argued by Examiner in the rejections. Neither of independent claims 1 nor 7 recites the sensors being “operatively connected” to the support member or liquid dispensing head as argued by Examiner. Examiner will appreciate that in Rutledge et al., neither the liquid dispensing head (610) nor its associated cradle member (604) supports a sensor component as claimed by

Applicant. Moreover, Applicant respectfully submits that the sensor mechanism (674) of Rutledge et al. is fixed or stationary and so cannot be properly argued to be movable as claimed.

Tracy et al. is directed to an assembly system having X and Y stages for moving a component manipulation system as shown in Figs. 1-3. The assembly system includes glass scale encoders attached to the linear servos that serve as actuators for the X and Y stages (see Col. 7, lines 27-30). Applicant respectfully submits that the use of glass scale encoders on X and Y stages of an assembly system does not teach or suggest the use of sensor components on a movable support member and a movable liquid dispensing head of a floating head dispenser in the manner as claimed by Applicant. In view of this deficiency in the teaching of Tracy et al., and the deficiency in the teaching of the primary Rutledge et al. reference as addressed above, Applicant respectfully submits that the rejections of independent claims 1 and 7 are improper and should be withdrawn.

Cavallaro is directed to a floating head liquid dispenser. As Examiner properly recognizes, Cavallaro is completely silent with respect to the combination of sensors as claimed by Applicant. In view of the deficiencies in the teachings of Rutledge et al. and Tracy as set forth above, and further in view of the silence of sensors in Cavallaro, Applicant respectfully submits that Examiner's rejections of independent claims 1 and 7 are improper and should be withdrawn.

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Moreover, as claims 2-6 and 8-10 depend from allowable independent claims 1 and 7, and further as each of these claims recites a combination of elements not taught or suggested by the prior art of record, Applicant respectfully submits that these claims are allowable as well.

Conclusion

In view of the foregoing response including the amendments and remarks, this application is submitted to be in complete condition for allowance and early notice to this affect is earnestly solicited. If there is any issue that remains which may be resolved by telephone conference, the Examiner is invited to contact the undersigned in order to resolve the same and expedite the allowance of this application.

Applicant does not believe that this response requires that any fees be submitted, however, if any fees are deemed necessary, these may be charged to Deposit Account No. 23-3000.

Respectfully submitted,

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